Smartec STM-150/170/190 LCD Monitors

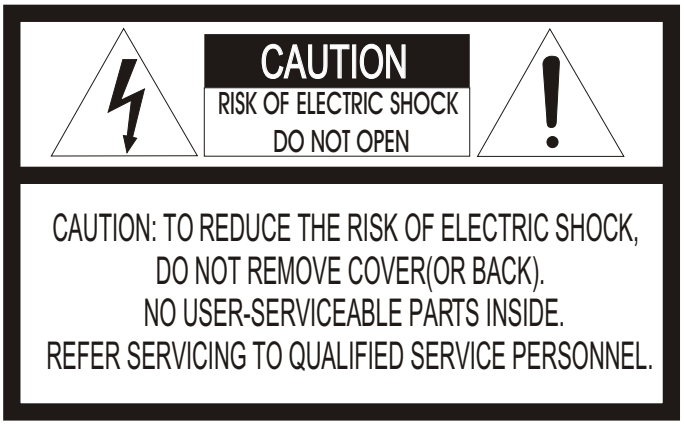
User Manual

www.smartec-security.eu

WARNINGS AND CAUTIONS:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECTS THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

CAUTION:


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER(OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

EXPLANATION OF GRAPHICAL SYMBOLS

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

PRECAUTIONS

Safety ----------

Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by the qualified personnel before operating it any further.

Unplug the unit from the wall oulet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials(curtains, draperies) that may block the ventilation holes.

Height and vertical linearity controls located at the rear panel are for special adjustments by qualified personnel only.

Installation ----------

Do not install the unit in an extremely hot or humid place or in a place subject to excessive dust, mechanical vibration.

The unit is not designed to be waterproof. Exposure to rain or water may damage the unit.

Cleaning ----------

Clean the unit with a slightly damp soft cloth. Use a mild household detergent. Never use strong solvents such as thinner or benzine as they might damage the finish of the unit.

Retain the original carton and packing materials for safe transport of this unit in the future.

FCC COMPLIANCE STATEMENT

INFORMATION TO THE USER : THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS B DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE IN A RESIDENTIAL INSTALLATION. THIS EQUIPMENT GENERATES, USES AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTIONS, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. HOWEVER, THERE IS NO GUARANTEE THAT INTERFERENCE WILL NOT OCCUR IN A PARTICULAR INSTALLATION. IF THIS EQUIPMENT DOES CAUSE HARMFUL INTERFERENCE TO RADIO OR TELEVISION RECEPTION, WHICH CAN BE DETERMINED BY TURNING THE EQUIPMENT OFF AND ON, THE USER IS ENCOURAGED TO TRY TO CORRECT THE INTERFERENCE BY ONE OR MORE OF THE FOLLOWING MEASURES :

- REORIENT OR RELOCATE THE RECEIVING ANTENNA.
- INCREASE THE SEPARATION BETWEEN THE EQUIPMENT AND RECEIVER.
- CONNECT THE EQUIPMENT INTO AN OUTLET ON A CIRCUIT DIFFERENT FROM THAT TO WHICH THE RECEIVER IS CONNECTED.
- CONSULT THE DEALER OR AN EXPERIENCED RADIO/TV TECHNICIAN FOR HELP.

CAUTION : CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS CLASS B DIGITAL APPARATUS COMPLIES WITH CANADIAN ICES-003.

CET APPAREIL NUMÉRIQUE DE LA CLASSE B EST CONFORME À LA NORME NMB-003 DU CANADA.

IMPORTANT SAFEGUARDS

1. READ INSTRUCTIONS -- All the safety and operating instructions should be read before the appliance is operated.

2. RETAIN INSTRUCTIONS -- The safety and operating instructions should be retained for future reference.

3. CLEANING -- Unplug video monitor or equipment from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

4. ATTACHMENTS -- Do not use attachments not recommended by the video monitor or equipment manufacturer as they may result in the risk of fire, electric shock or injury to persons.

5. WATER AND MOISTURE -- Do not use video monitor or equipment near water -- for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, or the like.

6. ACCESSORIES -- Do not place video monitor or equipment on an unstable cart, stand or table. The video monitor or equipment may fall, causing serious injury to a child or adult, and serious damage to the equipment. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.

6A. Video monitor or equipment and cart combinations should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.

7. VENTILATION -- Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to ensure reliable operation of the video monitor or equipment and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the video monitor or equipment on a bed, sofa, rug, or other similar surface. Video monitor or equipment should never be placed near or over a radiator or heat register. Video monitor or equipment receiver should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.

8. POWER SOURCES -- Video monitor or equipment should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your video monitor or equipment dealer or local power company. For video monitor or equipment designed to operate from battery power refer to the operating instructions.

9. GROUNDING OR POLARIZATION -- This video monitor may be equipped with a polarized alternating - current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

   Alternate Warnings - This video monitor is equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

10. POWER CORDS -- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11. HEED WARNINGS -- Follow all instructions marked on the video monitor or equipment.

12. LIGHTNING -- For added protection for video monitor or equipment during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video product due to lightning and power-line surges.

13. OVERLOADING --Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

14. OBJECT AND LIQUID ENTRY -- Never push objects of any kind into video monitor or equipment through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

15. SERVICING -- Do not attempt to service video monitor or equipment yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

16. DAMAGE REQUIRING SERVICE -- Unplug video monitor or equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:

    A. When the power-supply cord or the plug has been damaged.
    B. If liquid has spilled, or objects have fallen into the video product.
    C. If the video product has been exposed to rain or water.
    D. If the video product does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.
    E. If the video product has been dropped, or the cabinet damaged.
    F. When the video product exhibits a distinct change in performance -- this indicates a need for service.

17. REPLACEMENT PARTS -- When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

18. SAFETY CHECK -- Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.

19. FIELD INSTALLATION --This installation should be made by a qualified service person and should conform to all local codes.

20. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that product heat.

TABLE OF CONTENTS

Features · · ·

FEATURES

- Go-Anywhere Professional Color LCD Monitor
- High Bright, High Quality Picture
- NTSC and PAL in Composite and Y/C
- Thin and Lightweight, Rugged Metal Cabinets
- Many Mounting and Installation Options
- Low-Power Consumption-12 volts DC Operation
- Full Set of Video Controls, Flexible Input Connections

INSTALLATION

LCD monitors may be mounted in any position or orientation. Considerations for mounting include regard for how the monitor is going to be used, routing of connecting cords, and locations away from heat sources (including direct sunshine on the black case).
Mounting hard points include 10-32 inserts.
Cooling is not required, but some airflow around the case will allow the small amount of heat to be dissipated.
Power is required from a regulated supply (provided) or other 12 volts DC, ±10% DC source. The noise on the supply needs to be below 100 mVpp.

CAUTION: Note that many portable battery systems and all automobiles that have a 12 volt nominal supply will often be found to have high voltage spikes and be as high as 18 volts when charging or fully charged.

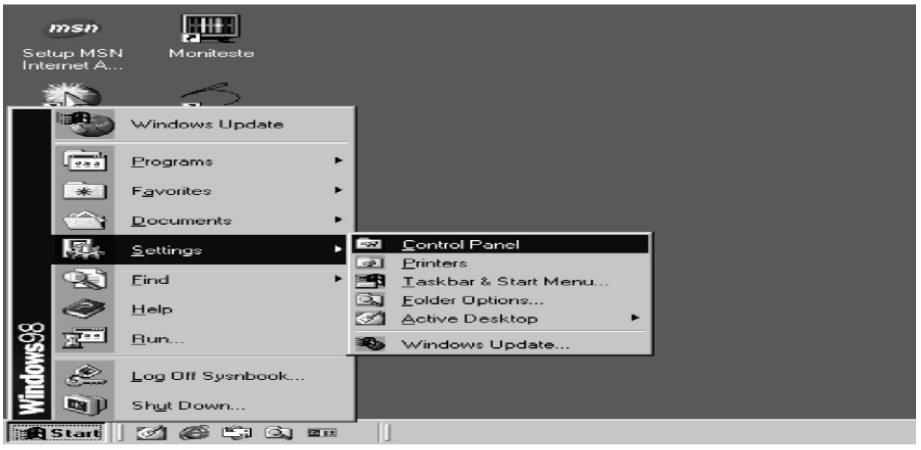
Plug and Play

The adoption of the VESA Plug and Play solution eliminates complicated and time consuming setup.
It allows you to install your monitor in a Plug and Play compatible system without the usual hassles and confusion. Your PC system can easily identify and configure itself for use with your display.

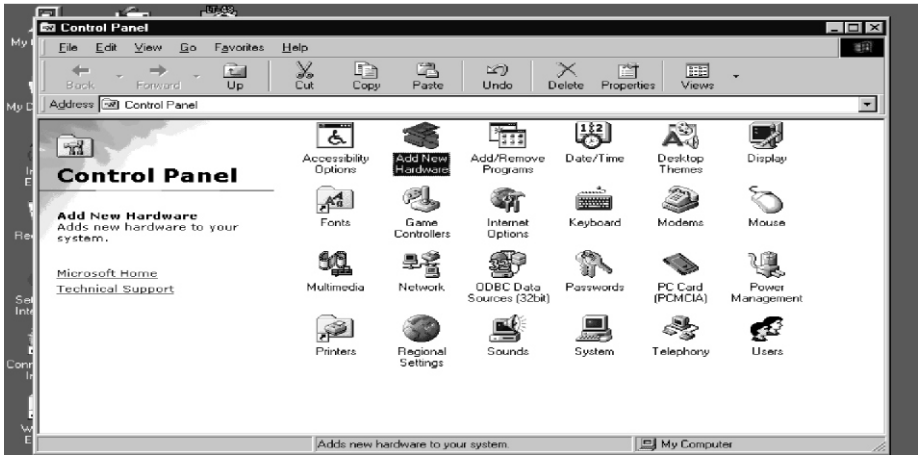
Installing the Video Driver (Windows 95/98)

To install the Video driver, refer to the following sequence.

If operating system is not Window 95/98, refer to the installation Guide on page 12.



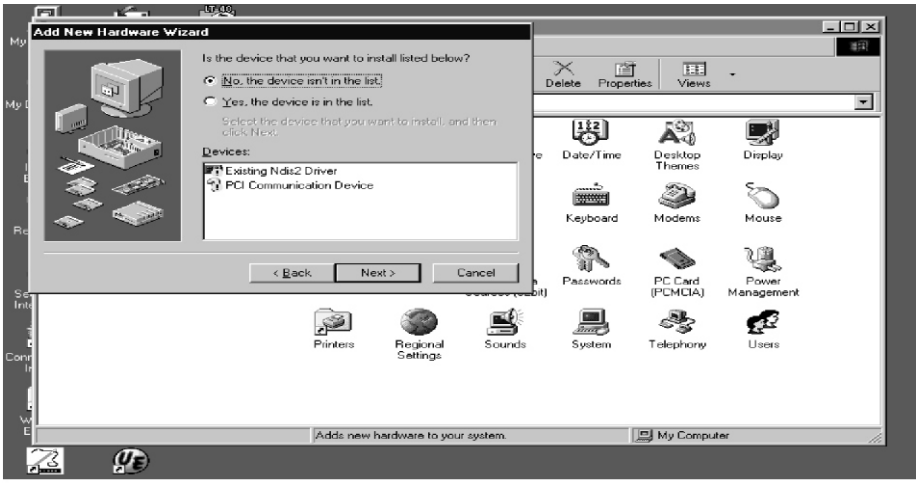
Select **Start/Setting/Control Panel.**



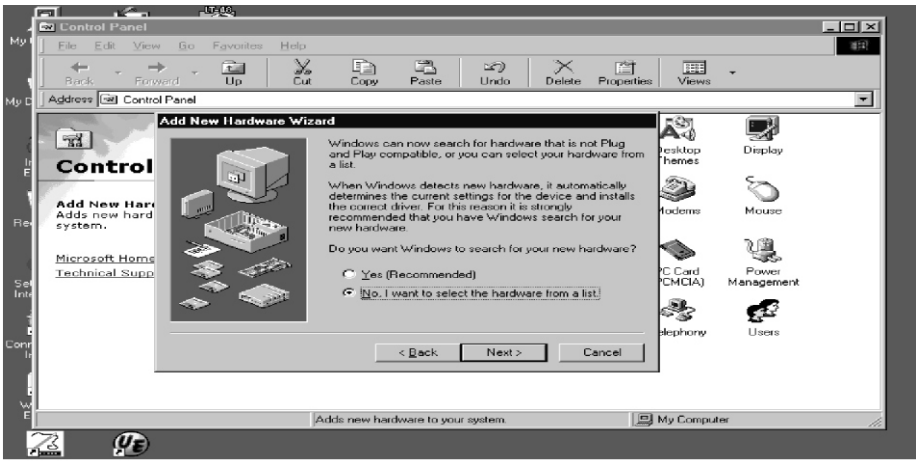
Click **Add New Hardware**.

Click **Next**.

Click **Next**.

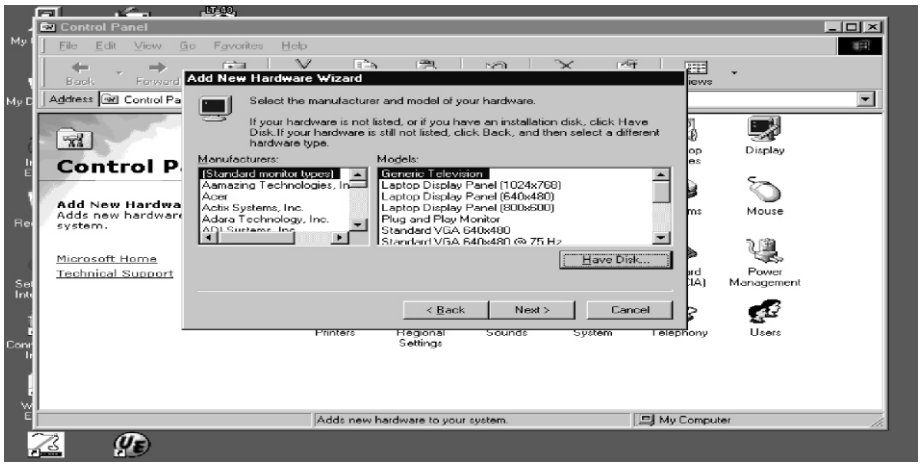


Click **Next** after selecting **No, the device isn't in the list**.

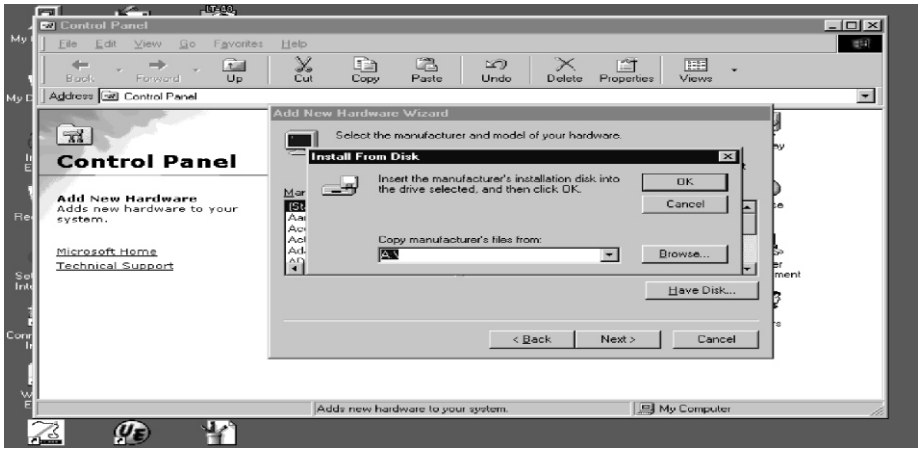

Control Panel
File Edit View Go Favorites Help
Back Forward Up Cut Copy Paste Undo Delete Properties Views
Address Control Panel
Add New Hardware Wizard
Windows can now search for hardware that is not Plug and Play compatible, or you can select your hardware from a list.
When Windows detects new hardware, it automatically determines the current settings for the device and installs the correct driver. For this reason it is strongly recommended that you have Windows search for your new hardware.
Do you want Windows to search for your new hardware?
Yes (Recommended)
No, I want to select the hardware from a list.
< Back
Next >
Cancel
Control
Add New Hard
Adds new hard
system.
Microsoft Home
Technical Supp
Desktop Themes
Display
Modems
Mouse
PC Card (PCMCIA)
Power Management
Telephony
Users
Adds new hardware to your system.
My Computer

Click **Next** after selecting **No, I want to select the hardware from a list**.

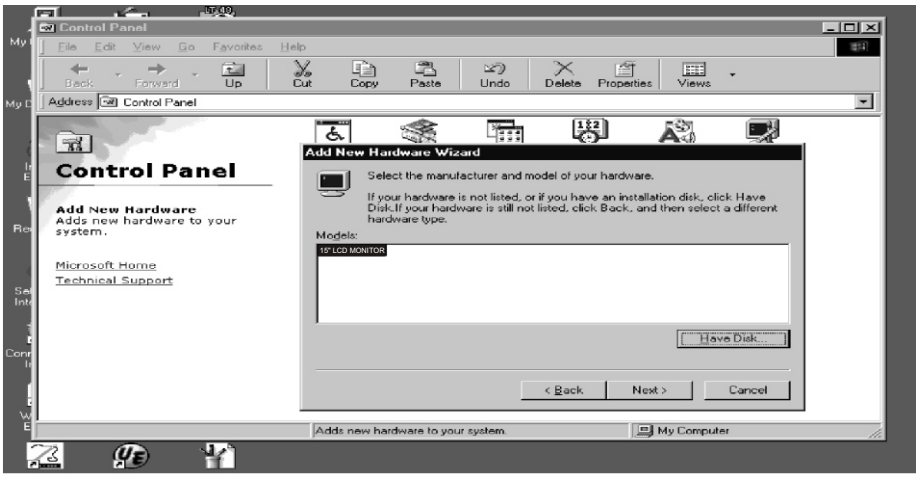
Click **Next** after selecting **Monitors**.


Control Panel
Add New Hardware Wizard
Select the manufacturer and model of your hardware.
If your hardware is not listed, or if you have an installation disk, click Have Disk. If your hardware is still not listed, click Back, and then select a different hardware type.
Manufacturers:
Models:
Have Disk...
< Back
Next >
Cancel
Microsoft Home
Technical Support
Adds new hardware to your system.
My Computer

Click **Have Disk...**.



Insert the supplied 3.5" floppy disk in A Drive.
Select **OK**.


Control Panel
File Edit View Go Favorites Help
Back Forward Up Cut Copy Paste Undo Delete Properties Views
Address Control Panel
Control Panel
Add New Hardware
Adds new hardware to your system.
Microsoft Home
Technical Support
Add New Hardware Wizard
Select the manufacturer and model of your hardware.
If your hardware is not listed, or if you have an installation disk, click Have Disk. If your hardware is still not listed, click Back, and then select a different hardware type.
Models:
15" LCD MONITOR
Have Disk...
< Back
Next >
Cancel
Adds new hardware to your system.
My Computer

Select **Next** after selecting the same model which you purchased.

Control Panel
File Edit View Go Favorites Help
Back Forward Up Cut Copy Paste Undo Delete Properties Views
Address Control Panel
Control Panel
Add New Hardware
Adds new hardware to your system.
Microsoft Home
Technical Support
Add New Hardware Wizard
Windows can continue installing your hardware now.
To continue installing the software needed by your hardware, click Finish.
< Back
Finish
Cancel
Adds new hardware to your system.
My Computer

Click **Finish**.

Installaion Guide for Video Driver

Microsoft® Windows® 2000 Operating System

1. Click **"Start"** , **"Setting"** , **"Control Panel"**.
2. Double click the **"Display"** Icon.
3. Choose the **"Settings"** tab and then click **"Advanced.."**.
4. Choose **"Monitor"**.
   Case1: If the "Properties" button is inactive, it means your monitor is properly configured.
   Please stop installation
   Case2: If the "Properties" button is active, click the "Properties" button then follow next steps continually
5. Click **"Driver"** and then click on **"Update Driver.."** then click on the **"Next"** button.
6. Choose **"Display a list of the known drivers for this device so that I can choose a specific driver"** then click **"Next"** and then click **"Have disk"**.
7. Click the **"Browse"** button then choose A:.
8. Click the **"Open"** button, then click **"OK"** button.
9. Choose **15" LCD** and click the **"Next"** button then click **"Next"** button.
10. Click the **"Finish"** button then the **"Close"** button.

If you can see the **"Digital Signature Not Found"** window then click the **"Yes"** button.
And click the **"Finish"** button then the **"Close"** button.

Microsoft® Windows® Millennium Operating System

1. Click **"Start"** , **"Setting"** , **"Control Panel"**.
2. Double click **"Display"** icon.
3. Select the **"Settings"** tab and click **"Advanced Properties"** button.
4. Select the **"Monitor"** tab.
5. Click the **"Change"** button in the **"Monitor Type"** area.
6. Choose **"Specify the location of the driver"**.
7. Choose **"Display a list of all the driver in a specific location.."** then click **"Next"** button.
8. Click the **"Have Disk"** button
9. Specify A: then click **"OK"** button.
10. Select **"Show all devices"** and choose **15" LCD** and click **"OK"**.
11. Continue choosing **"Close"** button and **"OK"** button until you close the Display Properties dialogue box.
    (You can get some other screen for warning message or others, then click the appreciate option for your monitor.)

Microsoft® Windows® XP Operating System

1. Click **"Start" > "Control Panel"** then click the **"Appearance and Themes"** Icon.
2. Click **"Display"** icon and choose the **"Settings"** tab then click **"Advanced.."**.
3. Click the **"Properties"** button on the **"Monitor"** tab and select **"Driver"** tab.
4. Click **"Update Driver.."** and select **"Install from a list or.."** then click **"Next"** button.
5. Select **"Don't search ,I will.."** then click **"Next"** and then click **"Have disk"**.
6. Click the **"Browse"** button then choose A: and choose **15" LCD** and click the **"Next"** button.
7. If you can see following **"Message"** window, then click the **"Continue Anyway"** button.
   Then click **"OK"** button.
   This monitor driver is not certified MS logo,and this installation don't damage your system.
8. Click the **"Close"** button then click **"OK"** button continually.
9. Monitor driver installation is completed.

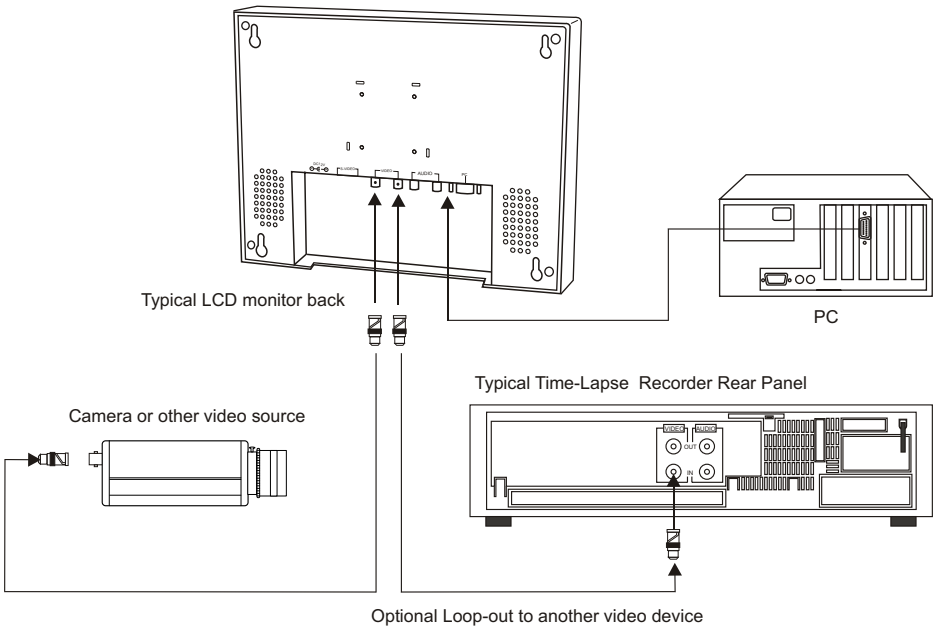
Microsoft® Windows® NT Operating System

1. Click **Start, Settings**, **Control Panel**, and then double-click **Display** icon.
2. In Display Registration Information window, click Settings Tab and then click **All Display Modes**.
3. Select a mode that you wish to use (Resolution, Number of colors and Vertical frequency) and then click **OK.**
4. Click **Apply** button if you see the screen working normally after clicking Test. If the screen is not normal, change to a different mode (lower mode of resolution, colors or frequency).
   Note: If there is no Mode at **All Display Modes,** select the level of resolution and vertical frequency by referring to the Preset Display Modes in the user guide.

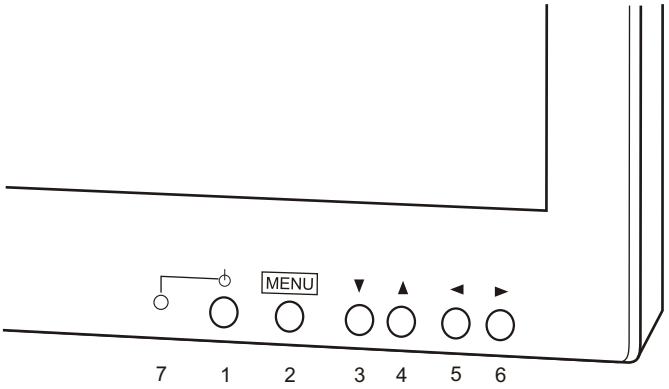
CONNECTIONS

To make a normal connection to the monitor, bring a cord from a camera or other video source to one of the BNC jacks or from a PC to the PC jack on the back of the monitor. Either the left or right BNC jack can be used for input. The other jack may be optionally connected to another user of the same signal.

Auto Termination
The input circuit of the monitor normally terminates the incoming cable in 75Ω, but these BNCs jack are auto-terminating. When two cables are connected, the internal termination is switched out, letting the final destination equipment provide the end termination. This arrangement is also specially offered for the Y/C (S-Video) jacks.



OPERATING INSTRUCTIONS - Controls



Control Buttons, Video Monitor Front.
Use a cloth dampened with a mild cleaner to clean the screen.

1. Power On/Off
When power is applied, the monitor will come on. This button then turns the monitor on and off.

2. Menu On/Off
This button is used to bring up or disappear the controls menu.

3. Select Down
This button is used to move down the menu list.

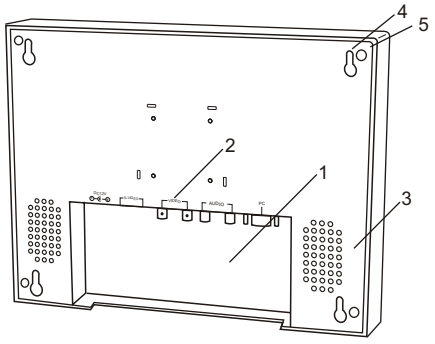
4. Select Up
This button is used to move up through the menu list.

5. Decrement
Pushing this button decreases the amount of the chosen item.
For some types of items, the button will choose ' On ' or others.

6. Increment
Pushing this button increases the amount of the chosen item.
For some types of items, the button will choose ' Off ' or others.

7. LED
A green indicator lights when the power is on.(the indicator will not light when the power is off) The indicator blinks when the monitor goes into the standby mode (PC mode).

BACKSIDE CONNECTIONS



Typical Color LCD Video Monitor Back

1. Input Connector Wall

Recessed wiring location for all cables. Place the plug from the supplied table-top power supply into the DC 12V connector. Input at the monitor is 12 volts DC from the TT universal AC supply (100-240 VAC, see specifications table for AC/DC details).

2. Input Video BNC (and Y/C)and P.C Connectors

Attach the video cord from a camera, VCR, or other source here. Either left or right, BNC or Y/C socket, can be input or output. Auto-termination switches inside. See Connections, below.

3. Speakers

Audio inputs are high impedance. RCA jack connections are left (white) and right (red). Inserting only a single plug will make a connection to both speakers (dual monaural).

4. Mounting Keyholes

You may hang monitors on a screw head or nail head to a wall. Do not insert the heads deeper than 1" (25mm).

5. Threaded Mounting Socket

The threaded sockets are hardpoints for mounting the monitor. You may mount it in any orientation. The screws must not insert deeper than ¼" (6 mm).
The threads are 10-32 UNC.

USER CONTROLS - Menu Operations

PC

Brightness	: 25
Contrast	: 41
Clock	: 125
Phase	: 16
Auto	: Stop
H Position	: 0
V Position	: 0
RGB Offset	: 0
Image Effect	: 5
Volume	: 10
Language	: English
Input	: PC
Recall	: No

Pushing the MENU button will bring up the Menu shown above.
Select the item which you want to adjust using the ▼, ▲ buttons
As shown, the Brightness may be adjusted with the ◀ or ▶ buttons.
To exit the menu, push the MENU button.
(This process store the new settings which you have selected.)

Brightness is used to set the light output of the **darkest** areas of the picture to **black**.

Contrast is used to set the light output of the **brightest** areas of the picture to **white**.

Clock is used to adjust best picture quality. It adjusts the numbers of the pixel clock across one line time. Therefore it can affect the picture poisition and size.

Phase is used to adjust best picture quality. It adjusts the sampling phase across one pixel time. When the phase is not adjusted properly, the picture quality is not good. Therefore this value should be carefully adjusted.

Auto

Select "Yes" using ◀ or ▶ buttons to adjust the best picture quality automatically. Execute repeatedly if the picture quality is not good.

H Position is used to adjust the horizontal position of the image on the screen.

V Position is used to adjust the vertical position of the image on the screen.

RGB Offset

RGB Offset is used to adjust the video input range. When the bright areas of the picture is too high (low), increase (decrease) the RGB Offset value.

Image Effect is used to soften or sharpen the image.

Volume controls the output of the internal speakers.

Language: **English** sets the OSD language of the menu to English.
Deutsch sets the OSD language of the menu to German.
Français sets the OSD language of the menu to French.
Italiano sets the OSD language of the menu to Italian.
Español sets the OSD language of the menu to Spanish.
Polski sets the OSD language of the menu to Polish.
Cesky sets the OSD language of the menu to Czech.

Input selects between the PC, composite(BNC)or Y/C (4 pin S-video) to be dispalyed.

Recall sets the monitor to the original factory setting.

VIDEO

Volume	: 10
Contrast	: 41
Brightness	: 23
Sharpness	: 5
Color	: 30
Tint	: 25
Language	: English
Motion Mode	: Motion
Under Scan	: OFF
Input	: CVBS
Filter	: OFF
AFC	: Fast
DVCO	: 25
Recall	: No

Pushing the MENU button will bring up the Menu shown above.
Select the item which you want to adjust using the ▼, ▲ buttons
As shown, the Brightness may be adjusted with the ◀ or ▶ buttons.
To exit the menu, push the MENU button.
(This process store the new settings which you have selected.)

Volume controls the output of the internal speakers.

Contrast is used to set the light output of the **brightest** areas of the picture to **white**.

Brightness is used to set the light output of the **darkest** areas of the picture to **black**.

***Tip*:** Use the **Brightness** to make the details in the dark areas of the picture to be just visible, and **Contrast** to "brighten" the picture without causing noses and foreheads to turn white.

Sharpness sets the desired sharpening enhancement to the picture.

Color adds coloring to the block and white picture content (of a color signal), and is usually set for pleasing faces.

Tint adjusts all the colors on the screen, but is most noticeable to the eye in reds and yellows, and is also usually set for pleasing face tones.
(Appears in NTSC mode only).

Language:

English sets the OSD language of the menu to English.
Deutsch sets the OSD language of the menu to German.
Français sets the OSD language of the menu to French.
Italiano sets the OSD language of the menu to Italian.
Español sets the OSD language of the menu to Spanish.
Polski sets the OSD language of the menu to Polish.
Cesky sets the OSD language of the menu to Czech.

Motion Mode changes the scanning method of the LCD monitor.

Tip : There are three methods which can be controlled.(Motion /Still /Progressive) **Still** and **progressive** modes are progressive scan but **progressive** is better than **still** for moving images and **Still** is better than **progressive** for still images. **Motion** uses the interlace scan.

Use Motion mode when the video source contains moving images. (For example, DVD or VCR)

Note: Progressive mode is not supported on the 20.1" Monitor.

Under Scan adjusts the image size.

Input selects between the composite (BNC) or Y/C (4 pin S-video) to be displayed.

Filter adjusts **Filter "ON"** to reduce the onput video noise.

AFC (auto frequency control) is used to adjust for the skew distortion of a video signal from a recorder (or other equipment).
The options are : NORMAL, SLOW, and FAST.

DVCO is used to reduce unwanted vertical lines flowing horizontally.

Tip : In some case, vertical lines flowing to the right or left appear depending on the video source.
When flowing vertical lines appear, it is convenient to reduce them by adjusting the **DVCO.**

Recall sets the monitor to the original factory setting.

Hot Keys
Without pushing the menu button, the left(▼,▲) and right pairs(◀,▶)of buttons function as direct access buttons(Hot keys).
The left pair adjusts **Brightness**, and the right pair adjusts **Volume**.

SPECIFICATIONS-15inch

LCD

LCD panel	15.0 inches TFT LCD Panel
Active display area (Diagonal)	15.0 inches
Pixel format	1024(H) x 768(V), RGB vertical stripe
Pixel pitch	0.297mm x 0.297mm
Color depths	8 Bit / 16.0M Colors
Contrast ratio	400:1 (Typical)
Brightness	250 cd/m^2 (Typical)
Viewing angles (L/R/U/D)	65/65/45/55 (Typical)
Light source / Lifetime	2CCFL / 40,000Hrs (Minimum)
Response time	16ms

VIDEO

Video Mode	NTSC/PAL (Auto selection)
Scanning method	Digital progressive scan (Still / Progressive)
Video input signals	
Composite	1.0Vp-p, 75Ω
S-video	0.7Vp-p(Luminance), 75Ω 0.3Vp-p(Chrominance), 75Ω
Video connector	
Composite	BNC x 2
S-video	4 Pin Mini-Din x 2
Termination	75Ω , Auto termination
Audio input connector	RCA x 2 (Stereo)
Audio Amplifier	0.5W x 2
Resolution	More than 500 Lines

PC

Input signal	Analog RGB(0.714Vp-p, 75Ω), H&V Sync(TTL)
Input connector	15pin D-sub
Input resolution	VGA 640x480 60~75Hz SVGA 800x600 56~75Hz XGA 1024x768 60~75HZ
Plug & Play	DDC 2B

User controls	Bright, Contrast, Tint, Color, Sharpness, etc
OSD Language	English / French / German / Italian / Spanish / Polish / Czech
Power requirement	12VDC, 3.0A
Power consumption	30 Watts (Standby 2Watts ≥)
DC power connector	Barrel, 5.5/2.1mm(+ Center)
AC power connector	IEC-320 Male, 100 - 240VAC
Dimensions	Net: 349.2mm(W) x 285.7mm(H) x 43mm(D) Packing: 492mm(W) x 359mm(H) x 122mm(D)
Weight	Net: 2.7Kg Packing: 4.5Kg
Operating temperature	0°C~ +40°C
Storage temperature	0°C~ +50°C
Case color	Black
Case material	Aluminum
Accessories	AC Adaptor, VGA cable, Power Cord, Manual Driver Diskette

* Design and specifications are subject to change without notice.

SPECIFICATIONS-17inch

LCD

LCD panel	17.0 inches TFT LCD Panel
Active display area (Diagonal)	17.0 inches
Pixel format	1280(H) x 1024(V), RGB vertical stripe
Pixel pitch	0.264mm x 0.264mm
Color depths	8 Bit / 16.2M Colors
Contrast ratio	700:1 (Typical)
Brightness	300 cd/m^2 (Typical)
Viewing angles (L/R/U/D)	75/75/75/60 (Typical)
Light source / Lifetime	4CCFL / 50,000Hrs (Minimum)
Response time	8ms

VIDEO

Video Mode	NTSC/PAL (Auto selection)
Scanning method	Digital progressive scan (Still / Progressive)
Video input signals	
Composite	1.0Vp-p, 75Ω
S-video	0.7Vp-p(Luminance), 75Ω 0.3Vp-p(Chrominance), 75Ω
Video connector	
Composite	BNC x 2
S-video	4 Pin Mini-Din x 2
Termination	75Ω , Auto termination
Audio input connector	RCA x 2 (Stereo)
Audio Amplifier	0.5W x 2
Resolution	More than 500 Lines

PC

Input signal	Analog RGB(0.714Vp-p, 75Ω), H&V Sync(TTL)
Input connector	15pin D-sub
Input resolution	VGA 640x480 60~75Hz SVGA 800x600 56~75Hz XGA 1024x768 60~75HZ SXGA 1280x1024 60Hz
Plug & Play	DDC 2B

User controls	Bright, Contrast, Tint, Color, Sharpness, etc
OSD Language	English / French / German / Italian / Spanish / Polish / Czech
Power requirement	12VDC 3.25A
Power consumption	41 Watts (Standby 2Watts≥)
DC power connector	Barrel, 5.5/2.1mm(+ Center)
AC power connector	IEC-320 Male, 100 - 240VAC
Dimensions	Net: 398mm(W) x 334mm(H) x 49.5mm(D) Packing: 520mm(W) x 438mm(H) x 147mm(D)
Weight	Net: 4.0Kg Packing: 6.1Kg
Operating temperature	0°C~ +40°C
Storage temperature	0°C~ +50°C
Case color	Black
Case material	Aluminum
Accessories	AC Adaptor, VGA cable, Power Cord, Manual Driver Diskette

* Design and specifications are subject to change without notice.

SPECIFICATIONS-19inch

LCD

LCD panel	19.0 inches TFT LCD Panel
Active display area (Diagonal)	19.0 inches
Pixel format	1280(H) x 1024(V), RGB vertical stripe
Pixel pitch	0.294mm x 0.294mm
Color depths	8 Bit / 16.7M Colors
Contrast ratio	1000:1 (Typical)
Brightness	250 cd/m^2 (Typical)
Viewing angles (L/R/U/D)	89/89/89/89 (Typical)
Light source / Lifetime	4CCFL / 50,000 (Minimum) Hrs
Response time	20ms

VIDEO

Video Mode	NTSC/PAL (Auto selection)
Scanning method	Digital progressive scan (Still / Progressive)
Video input signals	
Composite	1.0Vp-p, 75Ω
S-video	0.7Vp-p(Luminance), 75Ω 0.3Vp-p(Chrominance), 75Ω
Video connector	
Composite	BNC x 2
S-video	4 Pin Mini-Din x 2
Termination	75Ω , Auto termination
Audio input connector	RCA x 2 (Stereo)
Audio Amplifier	0.5W x 2
Resolution	More than 500 Lines

PC

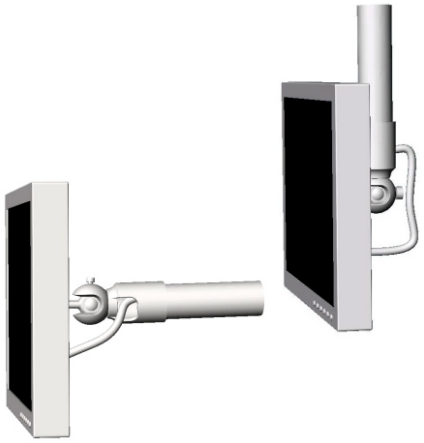
Input signal	Analog RGB(0.714Vp-p, 75Ω), H&V Sync(TTL)
Input connector	15pin D-sub
Input resolution	VGA 640x480 60~75Hz SVGA 800x600 56~75Hz XGA 1024x768 60~75HZ SXGA 1280x1024 60Hz
Plug & Play	DDC 2B

User controls	Bright, Contrast, Tint, Color, Sharpness, etc
OSD Language	English / French / German / Italian / Spanish / Polish / Czech
Power requirement	12VDC 3.5A
Power consumption	45 Watts (Standby 2Watts≥)
DC power connector	Barrel, 5.5/2.1mm(+ Center)
AC power connector	IEC-320 Male, 100 - 240VAC
Dimensions	Net: 419mm(W) x 362mm(H) x 54mm(D) Packing: 589mm(W) x 499mm(H) x 170mm(D)
Weight	Net: 5.1Kg Packing: 7.7Kg
Operating temperature	0°C~ +40°C
Storage temperature	0°C~ +50°C
Case color	Black
Case material	Aluminum
Accessories	AC Adaptor, VGA cable, Power Cord, Manual Driver Diskette

* Design and specifications are subject to change without notice.

BRACKET FEATURES-Optional STB-M775C

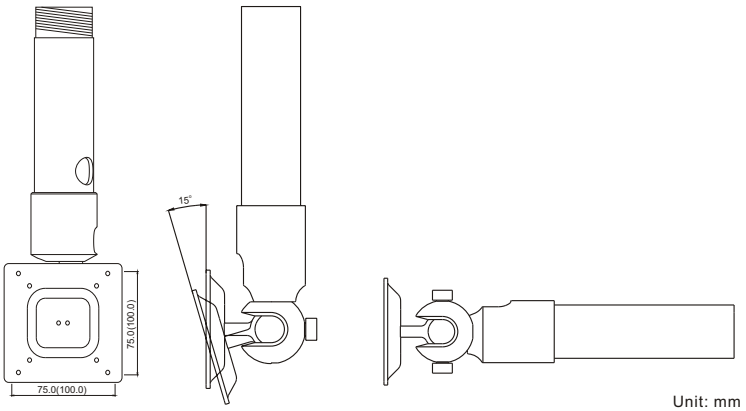
- Light duty wall & ceiling mount
- Adjustable swivel head
- Die cast and aluminum
- Cable feed through hole conceals wiring
- PT 1 $\frac{1}{4}$ threaded pipe
- Maximum load 20 lb (9.0kg)



The Bracket is light duty wall & ceiling mount designed for use with LCD monitor.

This mount is for use in wall & ceiling mounting applications and is capable of supporting loads up to 20 lb (9.0kg).

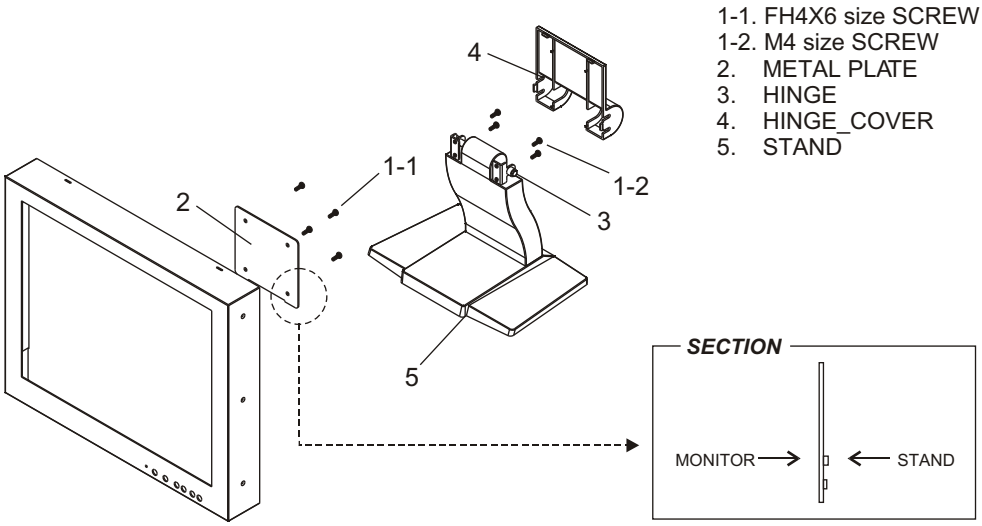
The mounting bracket must be attached to a structural object, such as a hard wood, wall stud or ceiling rafter, that supports the weight of the mount.



Unit: mm

Pan adjustment	Unlimited 180°	
Tilt adjustment	-5° ~ 15° (up or down)	
LCD mounting	four(4) M4 x 10L	
	machine screw (supplied).	
Construction	Die cast and aluminum	
Finish	Light-gray polyester power coat	
Maximum load	20 lb (9.0kg)	
Dimension	See dimensional outline	
Weight	Unit	Shipping
	4.4lb (2.0Kg)	5.5lb (2.5Kg)

STAND FEATURES-15",17",19" Optional STB-M1X



In order to install the desk-top stand at LCD monitor properly,
First, fix the metal plate provided to LCD monitor with 4 screws of only FH4X6 size only and the desk-top stand to the metal plate with 4 screw of M4 size.
Lastly, put the hinge cover on the hole located on the rear side of LCD monitor .

Note) 1. Since the metal plate has the regular interval of VESA standard, users

2. CAUTION : For the safety and better usage, use only FH4X6 size screws provided when you fix the metal plate to LCD monitor.

Tilt adjustment	-5° ~ 30° (up or down)	
LCD mounting	eight(8) M4 x 8L	
Construction	Plastic and Metal	
Finish	Painting	
Maximum load	4.5Kg	
Dimension	256.5mm x 165mm x 190mm	
	With 15" (Height) : 355mm	
	With 17" (Height) : 371.25mm	
	With 19" (Height) : 388mm	
Weight	Unit	Shipping
	1.2Kg	1.5Kg